

CLAIMS

1. An ultrasonic dental tip for use with an ultrasonic generator comprising:
 - an elongated shank having a proximal and a distal end;
 - a connector attached to said proximal end of said elongated shank to allow for connection of the tip to an ultrasonic generator handpiece, said connector enclosing a hollow internal volume;
 - a working end arranged towards said distal end of said shank;
 - a void in said shank, said void extending from a first point distal of said proximal end to a second point proximal of said working portion, said void including a groove which generally extends from the proximal end of said void to the distal end of said void; and
 - a hole in said elongated shank, said hole connecting said hollow internal volume and said groove;
 - wherein said elongated shank includes at least one bend in said intermediate portion, said bend being distal of the point where said hole connects to said groove.
2. The tip of claim 1 wherein said void includes a planar base.
3. The tip of claim 2 wherein said groove is generally centered in said planar base.
4. The tip of claim 1 wherein said elongated shaft is generally cylindrical and has a central axis.
5. The tip of claim 4 wherein the diameter of said elongated shaft is greatest at said proximal end and decreases to said distal end.
6. The tip of claim 4 wherein said groove extends generally coaxially with central axis.
7. The tip of claim 4 wherein said central axis does not pass through said void.
8. The tip of claim 1 wherein said groove is V-shaped in cross section.

9. The tip of claim 1 wherein said groove is U-shaped in cross-section.
10. The tip of claim 1 wherein said groove is formed by skiving.
11. The tip of claim 1 wherein said working end comprises a rasp.
12. The tip of claim 1 wherein said working end comprises a ball.
13. The tip of claim 1 wherein said working end comprises a file.
14. The tip of claim 1 wherein said working end comprises a drill.
15. The tip of claim 1 wherein said working end includes grooves formed in a crossing relationship.
16. The tip of claim 1 further comprising
a tube assembly including:
a hollow tube;
wherein, said tube passes through said hole and is placed in said groove.
17. The tip of claim 16 wherein said tube assembly further comprises a bushing wherein said bushing is located within said hollow internal volume and is connected to said tube.
18. The tip of claim 16 wherein said tube extends to a point between 1 mm and 20 mm from said distal end of said elongated shank.
19. The tip of claim 16 wherein said elongated shank is generally cylindrical.
20. The tip of claim 16 wherein the diameter of said elongated shank decreases from said proximal end to said distal end of said elongated shank.